



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,627	10/02/2003	Masahiro Yatake	U 014842-6	4186

7590

05/17/2005

Clifford J. Mass  
Ladas & Parry  
26 West 61 Street  
New York, NY 10023

EXAMINER
----------

KLEMANSKI, HELENE G

ART UNIT	PAPER NUMBER
----------	--------------

1755

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/677,627

Applicant(s)

YATAKE, MASAHIRO

Examiner

Helene Klemanski

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/7/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, the phrase "of the gluconic acid (GA) or salt thereof, or citric acid (CA) or salt thereof" appears to lack antecedent basis in claim 6.

In claim 8, the phrase "of the nitrilotripropionic acid (NTP) or salt thereof, nitrilotrisphosphonic acid (NTPO) or salt thereof, or dihydroxyethylglycine (DHEG) or salt thereof" appears to lack antecedent basis in claim 6.

It appears that these claims should be dependent upon a claim other than claim 6. Please clarify.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Art Unit: 1755

4. Claims 1, 6, 9 and 16-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. ('817).

Lee et al. ('817) teach an ink jet ink composition comprising a 0.5-15 wt% of colorant such as dyes and pigments, a vehicle and 0.5-20 wt% of an organo-phosphonic acid such as hydroxyethylene di(phosphonic acid) (HEDP). The vehicle comprises 0-10 wt% of a surfactant such as SURFYNOL (i.e. acetylenic alcohol surfactant), 0.1-50 wt% organic cosolvents such as lower alkyl ethers of polyhydric alcohols and water. See col. 2, lines 37-67, col. 3, lines 56-60, col. 4, lines 1-57, col. 5, lines 5-61, Table 1; Ink 3, Table 2; Inks 3 and 5-7 and claims 1, 2, 4, 6 and 7. The ink jet ink composition as taught by Lee et al. ('817) appears to anticipate the present claims.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-6 and 8-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ichizawa et al.

Ichizawa et al. teach an ink jet ink composition comprising 0.3-20 wt% of a pigment such as an inorganic or organic pigment, an aqueous polymer in the form of a

Art Unit: 1755

colloid (i.e. polymer particles), a water-soluble organic solvent such as alkyl ethers of polyhydric alcohols or hexylene glycols and water. The pigment may be surface treated with a substance that covers the pigment surface or a pigment that is self-dispersible in water may be used. The ink jet ink composition may further contain 0.001-7 wt% of a surfactant such as an acetylene glycol derivative or a silicone surfactant and a chelating agent such as nitrilotriacetic acid (NTA), dihydroxyethylglycine (DHEG) or diethylenetriamine-N,N,N',N'',N''-pentaacetic acid (DTPA). Ichizawa et al. further teach that the ink jet ink composition contains particles such that the number of particles having a particle diameter larger than 5  $\mu\text{m}$  is smaller than 50/ $\mu\text{l}$  (i.e. polymer fine particles). See col. 4, lines 22-52 and lines 49-52, col. 5, lines 56-65, col. 7, lines 1-25, col.8, line 63 – col. 9, line 5, col. 10, line 64 – col. 11, line 1, col. 11, line 55 – col. 12, line 28, col. 12, lines 38-46 and claim 1. Ichizawa et al. fail to specifically exemplify the addition of a chelating agent such as nitrilotriacetic acid (NTA), dihydroxyethylglycine (DHEG) or diethylenetriamine-N,N,N',N'',N''-pentaacetic acid (DTPA) to the ink jet ink composition as claimed by applicants.

Therefore, it would have been obvious to one having ordinary skill in the art to use the specific chelating agent such as nitrilotriacetic acid (NTA), dihydroxyethylglycine (DHEG) or diethylenetriamine-N,N,N',N'',N''-pentaacetic acid (DTPA) as claimed by applicants as Ichizawa et al. also discloses the use of these chelating agents but fails to show an example incorporating them.

The only limitations in the claims not found by the examiner are the absolute value of the zeta potential and the polarity of the polymer particles. However, these

Art Unit: 1755

limitations are considered to be obvious because there does not appear to be any reason why the cited reference would not contain a polymer particle with applicants claimed absolute value of the zeta potential and the polarity.

7. Claims 1-4, 6, 9, 16-20, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin.

Lin teaches an aqueous ink jet ink composition comprising water, a colorant such as a dye or pigment that can be dispersed without the aid of a dispersing agent and a water-soluble anti-intercolor bleed agent. The ink jet ink composition may also contain a water-soluble organic solvent, a penetrant such as propylene glycol butyl ether, dipropylene glycol butyl ether and butyl carbitol (i.e. diethylene glycol butyl ether), a surfactant such as SURFYNOL (i.e. acetylenic alcohol surfactant) and a 0.001-10% by weight of a chelating agent such as nitriloacetate or diethylenetriaminepentaacetic acid or a salt thereof. See col. 3, lines 1-11, col. 13, lines 60-65, col. 14, lines 16-27, col. 18, line 60 – col. 19, line 10, col. 19, lines 59-65, examples 1 and 2 and claims 1, 3, 4 and 13. Lin fails to specifically exemplify the addition of a chelating agent such as nitriloacetate or diethylenetriaminepentaacetic acid to the ink jet ink composition as claimed by applicants.

Therefore, it would have been obvious to one having ordinary skill in the art to use the specific chelating agents such as nitriloacetate or diethylenetriaminepentaacetic acid as claimed by applicants as Lin also discloses the use of these chelating agents but fails to show an example incorporating them.

Art Unit: 1755

8. Claims 1-4, 6, 8, 9 and 16-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeh et al.

Yeh et al. teach an aqueous ink jet ink composition comprising an aqueous vehicle, 0.01-10% by weight of a self-dispersing pigment such as an inorganic or organic pigment and a multivalent cation. The aqueous vehicle comprises a mixture of water and at least one water-soluble organic solvent. The ink jet ink composition may further contain 1-15% by weight of penetrating agents such as diethylene glycol monobutyl ether, triethylene glycol monobutyl ether, propylene glycol monobutyl ether, dipropylene glycol monobutyl ether and 1,2-hexanediol and chelating agent such as nitrilotriacetic acid (NTA), dihydroxyethylglycine (DHEG) and diethylenetriamine-N,N,N',N'',N'''-tetraacetic acid (DTPA). See paras. 0017-0019, paras. 0039-0040, paras. 0045-0047, para. 0059, paras. 0063-0070, Table 1, Table 2 and claims 1, 5 and 10. Yeh et al. fail to specifically exemplify the addition of a chelating agent such as nitrilotriacetic acid (NTA), dihydroxyethylglycine (DHEG) or diethylenetriamine-N,N,N',N'',N'''-pentaacetic acid (DTPA) to the ink jet ink composition as claimed by applicants.

Therefore, it would have been obvious to one having ordinary skill in the art to use the specific chelating agent such as nitrilotriacetic acid (NTA), dihydroxyethylglycine (DHEG) or diethylenetriamine-N,N,N',N'',N'''-pentaacetic acid (DTPA) as claimed by applicants as Yeh et al. also discloses the use of these chelating agents but fails to show an example incorporating them.

Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ichizawa et al., Lin or Yeh et al. as applied to claims 1-8 and 9-23 above, and further in view of Parliment.

Ichizawa et al., Lin and Yeh et al. are cited and relied upon for the above stated reasons. Ichizawa et al., Lin and Yeh et al. fail to teach the addition of gluconic acid or citric acid as the chelating agent to their ink jet ink compositions as claimed by applicants.

Parliament teaches that nitrilotriacetic acid, gluconic acid and citric acid are all complexing agents. See col. 2, lines 65-67.

Therefore, it would have been obvious to one having ordinary skill in the art to have replaced the nitrilotriacetic acid complexing agent of Ichizawa et al., Lin or Yeh et al. with the gluconic acid or citric acid complexing agents of Parliament because the substitution of art recognized equivalents as shown by Parliament would have been within the level of ordinary skill in the art.

### ***Conclusion***

The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.



Art Unit: 1755

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Klemanski whose telephone number is (571) 272-1370. The examiner can normally be reached on Monday-Friday 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Helene Klemanski  
Primary Examiner  
Art Unit 1755

  
HK  
May 16, 2005